

## MARCH MIXED WASTE SUBGROUP HIGHLIGHTS

The Hanford STCG Mixed Waste (MW) Subgroup met on March 11, 1999 in the EESB Stampede Room. Larbi Bounini reviewed the status of each MW technology need in detail. The first MW technology need, RL-MW01, entitled "*Remote Macroencapsulation of RH MLLW Debris*" is being discussed with Moses Jaraysi of the Washington State Department of Ecology. A request has been made to be able to use CH macroencapsulation technology to treat this waste. If regulator approval is obtained for this approach the need will be taken off our list. The decision should be made by June 1999.

The second need, RL-MW02, entitled "*Remotely Controlled Volume Reduction Techniques for RH MLLW and RH TRUW*" is similar to the ASTD project that LANL and Sandia are starting. Hanford will be involved with glovebox D & D as part of this ASTD project. Waste Management Hanford will keep track of the results of this project to see if similar techniques could be used on other waste forms.

The third need, RL-WM03, entitled "*Remote Characterization to Distinguish TRUW from Non-TRUW Portions of Various-Sized Debris in a High Beta/Gamma Field*" was due to future waste streams from the Tank Farms. This need may be transferred to the Tanks Subgroup to handle as it fits there under the current PHMC Contract.

A solution to the fourth need, RL-MW04, entitled "*Remote Decontamination of RH-TRUW Debris to Support Reclassification into Non-TRUW Category*" is being actively pursued via a demonstration at Lasertronics on the week of March 22. Three painted samples are being sent to Lasertronics for the demo and Larbi and Norm Olson will be there to watch the demo. The laser decontamination will also be videotaped. If the demo is successful, funding will be sought to use the laser at 222S.

The fifth need, RL-MW05, discussed entitled "*Remote Treatment of RH Soils and Other Solid Wastes Contaminated with Organics*" deals with the estimated 56 cubic meters of soil from the Tank Farms. It may be possible to macroencapsulate this waste in which case the need would be met.

The sixth need, RL-MW06, entitled "*Treatment of CH TRUW Liquid Wastes Contaminated with PCBs and Ignitables*" is being examined by the MWFA and three potential solutions researched. LLNL has two systems that the MWFA has been funding: Direct Chemical Oxidation (DCO) and Molten Salt Oxidation (MSO). DCO test results were not good as too much secondary waste results from the process for our waste types. LLNL has an MSO system but it is very large and the MWFA is not funding research on MSO any further. A third solution, Solvated Electron Technology (SET), is being developed by Commodore Advanced Sciences, Inc. and may be used to solve this need. Commodore presented information at a meeting with PNNL researchers recently and the viewgraphs from this presentation will be sent to all subgroup members for review. SET may be useful for treatment of organic contaminated wastes such as for MW Needs #5 and #6.

The next MW technology need discussed, RL-MW013, entitled "*Non-Destructive Assay (NDA) of RH TRUW (High Beta/Gamma Field) to Meet WIPP Requirements*", deals with a Complex-wide issue. There is a technology gap now as there are no technologies that can meet this need. The MWFA is funding development of this technology at INEEL and LANL and we will keep track of this research.

The MW need, RL-MW015, entitled "*System to Determine the Integrity of TRUW Drums During Retrieval*", does not fit into the MWFA needs being funded and may be sent to the Subcon Subgroup as they have the same problem.

The MW need, RL-MW016, entitled "*System to Retrieve RH TRUW from Caissons*", is being studied by Larbi as part of the M-091 work. He will be writing a PMP that will include the caisson waste and how to dispose of it.

The MW need, RL-MW017, entitled "*Treatment of MLLW Batteries*", may be met by macroencapsulating the drums of batteries if a waiver can be received to do so from the regulators. The solution to the MW need, RL-MW018, entitled "*Treatment of MLLW Mercury Wastes*", may be met by the MWFA setting up a National Disposal Contract to deal with Hg Wastes across the complex. Our Hg wastes could be handled under this contract.

Equipment has been purchased, but not yet installed, to meet the need, RL-MW019, entitled "*Stabilization Mixing System (T Plant)*". Larbi is working with the plant engineers to get the new system deployed. Funding has been received from the MWFA to work on a solution to the need RL-MW020, entitled "*Solidification of High Salt Wastes*". The funding will be used to test samples of tectonite, a new type of concrete, to see if the substance can meet the requirements. The tests will be performed at a private lab in Portland.

The MW need, RL-MW023, entitled "*Tritium Removal from Wastewater*" is also a Complex-wide issue. One vendor (Nukem) has a system that they claim can remove 90% of the tritium and will be testing it soon. We will monitor the progress of this new system.

The MW need, RL-MW024, entitled "*Screening of Materials for PCB Content*" may also be sent to the Subcon Subgroup and deleted from our list.

Larbi will present some of these needs, and actions being taken to meet them, at the next STCG Management Council (MC) Meeting in March. Dale McKenney will also talk about the technology deployment successes at WRAP at the March meeting. Craig Richens will present information from the recent MWFA Program Review at the March MC meeting also. The review was held on February 23-25 and attended by Craig, Bill Bonner, Norm, Larbi, and Mark French from Hanford.

The wording changes that the MC proposed to the new MW need, RL-MW025, entitled "*NDA/WIPP Certification of BWAS for CH-TRU Burial Boxes*" was approved by the

subgroup. Funding to perform the certification will be received soon from the MWFA. Norm Olson stated that the needs process has already started and that the PHMC contractors are working on the needs write-ups. The needs package for this year will be sent out before the next MW Subgroup meeting so subgroup members can review the all the needs prior to the meeting. In addition to the technology needs, Wayne Ross presented potential science needs that will be reviewed at the next MW Subgroup meeting to be held April 8.

Mixed Waste Subgroup Meeting Attendees  
March 11, 1999

Gary Ballew	PREC	946-0611
Bill Bonner	PNNL	372-6263
Larbi Bounini	WMH	376-4650
Ellen Dagan	DOE	376-3811
Pamela Innis	EPA	376-4919
Tina Masterson-Heggen	Ecology	736-5701
Norm Olson	FDH-Tech MGT	372-4810
Wayne Ross	PNNL	372-4684
Shannon Saget	DOE-RL STP	372-4029
Steve Weakley	PNNL	372-4275

